

## **REMARKS**

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

### **I. July 27, 2004 Teleconference**

Applicant would like to thank Examiner Kam for the telephone interview conducted on the morning of July 27, 2004. During this interview, Applicant and Examiner Kam discussed the 35 USC §112, second paragraph, rejection of claims 49-54, 57 and 63. Applicant would like to thank Examiner Kam for clarifying and explaining her reasoning supporting the rejection and for considering Applicant's rationale for reciting the language of the claim.

### **II. Status Of The Claims**

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Claims 25-29, 42, 49 and 59 were amended. Claims 56 and 57 were cancelled without disclaimer. Claims 77 and 78 were added.

Exemplarily support for the claim amendments and newly added claims is found in the specification as set forth below. Additional amendments were made to correct editorial errors, spelling errors, and clarify the subject matter of the claims. These amendments are not

intended to narrow the scope of the claims in any way.

<u><b>Claim No.</b></u>	<u><b>Exemplary Support</b></u>
25	Original Claim 25; Page 16, lines 25-29; Page 17, Table 1; Page 18, Table 2
26	Original Claim 26; Page 16, lines 25-29; Page 17, Table 1; Page 18, Table 2
27	Original Claim 27; Page 16, lines 25-29; Page 17, Table 1; Page 18, Table 2
28	Original Claim 28; Page 16, lines 25-29; Page 17, Table 1
29	Original Claim 29; Page 16, lines 25-29; Page 17, Table 1
42	Original Claim 42
49	Page 1, lines 21-25; Page 7, lines 30-33
59	Original Claim 59
77	Original Claim 56
78	Original Claim 57

Because the foregoing amendments do not introduce new matter, entry thereof by the Examiner is respectfully requested. Upon entry of this Amendment, claims 1-55 and 58-78 will remain pending.

### **III. Formal Objections To The Claims**

#### **A. Objection To Claims 56 And 57 For Incorporating Brackets**

Claims 56 and 57 were objected to because Applicant used a term incorporating brackets.

Applicant has cancelled claims 56 and 57 and added new claims 77 and 78 encompassing the same subject matter without the use of brackets. As such, this objection is rendered moot.

**B. Objection To Claim 59 For Reciting “glu” And “PO<sub>3</sub>-Tyr<sup>2</sup>”**

Claim 59 was objected to because of the use of the terms “glu” and “PO<sub>3</sub>-Tyr<sup>2</sup>”.

As suggested by the Examiner, Applicant has amended the terms to “Glu” and “PO<sub>3</sub>-Tyr”. Accordingly, Applicant respectfully requests withdrawal of this ground for objection.

**IV. Rejection Of The Claims Under 35 U.S.C. 112, Second Paragraph**

Claims 2-4, 23-30, 34, 35, 37, 38, 41, 42, 44, 45, 47-54, 56, 57, 59, 63 and 65-67 were rejected under 35 U.S.C. 112, second paragraph, as being allegedly indefinite.

**A. Rejection Of Claims Containing Measures of Variability**

The Examiner rejected the following claims containing measures of variability as the claims allegedly were not clear to those skilled in the art. The rejections were:

A. The Examiner asserts that in claims 2-4, 34, 35, 37, 38, 44, 45, 50, 51, 56, 57 and 65-67 the terms “greater than about 6.0” and “greater than about 5.5” are allegedly indefinite.

B. The Examiner asserts that in claims 23-25 the terms “less than about 5%,” “for up to at least 6 months,” and “less than about 3 to about 4%” are allegedly indefinite.

C. The Examiner asserts that in claim 42 the term “no more than about 2%” is allegedly indefinite.

D. The Examiner asserts that in claim 48 the term “up to about 24 hours” is allegedly indefinite.

**1. Those Skilled In The Art Would Recognize The Range Of “Greater Than About” And “Less Than About”**

Applicant draws the Examiner’s attention to the discussion of the definiteness of the term “about” in the MPEP. In section 2173.05(b), the MPEP explains that the term “about”

can be used to delineate boundaries which are clear, but flexible. A rejection under 35 U.S.C. 112, second paragraph, is especially inappropriate where “infringement could clearly be assessed” by those skilled in the art, for example, “through the use of a stopwatch.” See MPEP 2173.05(b). In addition, “claims reciting ‘at least about’ were invalid for indefiniteness where there was close prior art and there was nothing in the specification, prosecution, history, or the prior art to provide any indication as to what range of specific activity is covered by the term ‘about.’ ” MPEP 2173.05(b) (citing *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991)). Moreover, the Federal Circuit did not invalidate every use of the phrase “at least about.” In *Amgen*, the court specifically cautioned

that our holding . . . should not be understood as ruling out any and all uses of this term in patent claims. It may be acceptable in appropriate fact situations, e.g., *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1557, 220 USPQ 303, 316 (Fed. Cir. 1983) (“use of ‘stretching ... at a rate exceeding about 10% per second’ in the claims is not indefinite”), even though it is not here.

*Amgen*, 18 USPQ2d at 1031.

In the present application, claims 2, 23, 25, 28-30, 34, 37, 41, 44, 47-48 and 50 recite the terms “at least about” or “greater than about” to delineate boundaries which are clear, but flexible. In each of the above claims, “infringement could clearly be assessed” by those skilled in the art using basic measurements, much like “the use of a stopwatch.” MPEP 2173.05(b). For example, claim 2 recites “wherein the pH of the formulation is greater than about 6.0.” Those skilled in the art can easily assess whether an accused formulation is infringing by measuring its pH. Likewise, those skilled in the art can easily assess whether an accused formulation is, as in claim 23, “less than about 5% water by weight.” The Application teaches this assessment, for example, in Example 6. See page 16, line 24 to page 18, line 4, of the Application.

Indeed, claims 47 and 48 recite terms almost identical to the term that was approved by the court in *W.L. Gore & Assocs., Inc.* In that case, the court concluded that the term

“exceeding about 10% per second” was not indefinite. *See* 721 F.2d at 1557. In the present application, claims 47 and 48 recite “at least about 12 hours” and “up to about 24 hours,” respectively. Like the term in *W.L. Gore & Assocs., Inc.*, each of these claims extend up to or away from a clear, but flexible boundary which could be clearly assessed by those skilled in the art by merely measuring time.

Further and unlike the claim limitation at issue in *Amgen*, there is no close prior art impinging upon the rejected ranges and there are indications as to what range of specific activity is covered by the term about. The Application provides indications as to what ranges are covered by the term ‘about’, for example, as set forth below.

<u>Claim No.</u>	<u>Term</u>	<u>Exemplary Support</u>
2, 34, 37, 44	The pH of the formulation is greater than about 6.0	Page 7, lines 21-26
23, 41	Less than about 5% water by weight	Page 7, lines 11-13; Page 8, lines 22-24
25, 28	Evidenced by GLP-2 peptide degradation of less than about 5%	Example 6, Pages 16-18
30	Less than about 2% peptide degradation	Example 6, Page 17
47	At least about 12 hours	Example 4
48	Up to 24 hours	Example 4

Accordingly, Applicant respectfully requests withdrawal of these grounds of rejection to claims 2-4, 23-25, 34, 35, 37, 38, 44, 45, 50, 51, 56, 57 and 65-67.

**2. Claims 25 and 28 Reciting, For Example, “For Up To At Least 6 Months”**

As suggested by the Examiner, Applicant has amended claims 25 and 28 to recite, for example, “for up to 6 months.” Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

**3. Claims 26-27 and 29 Reciting, For Example, “Less Than About 3 To About 4%”**

In view of amended claims 26-27 and 29, Applicant requests withdrawal of these grounds of rejection as moot.

**4. Claim 42 Reciting “No More Than About 2%”**

As suggested, Applicant has amended claim 42 to recite “about 2% or less.” Accordingly, Applicant respectfully requests withdrawal of this ground of rejection.

**B. Rejection Of Claims 49-54, 57 and 63 As Being Allegedly Indefinite Because The Claims Lack An Essential Step**

Claims 49-54, 57 and 63 were rejected as indefinite under 35 USC 112, second paragraph, because the claims allegedly omit the essential step of identifying an outcome for the treatment of a disease using the GLP-2 formulation. Additionally, the claims were rejected as allegedly indefinite because the use of the term “a disorder, disease or condition for which treatment with GLP-2 is indicated.”

In view of amended claim 49, Applicant requests withdrawal of these grounds of rejection as moot.

**C. Rejection of Claim 59 As Being Allegedly Indefinite For Reciting The Term “And/Or”**

Claim 59 was rejected under 35 U.S.C. 112, second paragraph, as being allegedly indefinite for reciting the term “and/or”.

Applicant has amended claim 59 to omit the recitation of the term “and/or.” As this ground of rejection is moot, Applicant respectfully requests its withdrawal.

**D. Rejection of Claim 59 As Being Allegedly Indefinite For Reciting Amino Acid Substitutions Without Indicating a “SEQ ID NO:”**

Claim 59 was rejected 35 U.S.C. 112, second paragraph, as being allegedly indefinite because the claim recites amino acid substitutions at specific positions without making clear

what amino acid sequence these positions reference. Applicant respectfully disagree with the Examiner's conclusion.

Applicant directs the Examiner's attention to verbiage used in several references cited in the Specification and the prosecution of the present Application. For instance, WO 99/43361 ("WO '361") relates to a pharmaceutical composition comprising GLP-2 derivatives. WO '361 discloses peptides containing amino acid substitutions by reciting "Lys<sup>20</sup>GLP-2(1-33)", "Lys<sup>20</sup>Arg<sup>30</sup>GLP-2(1-33)", "Arg<sup>30</sup>Lys<sup>34</sup>GLP-2(1-35)", and "Arg<sup>30</sup>GLP-2(1-35)". Moreover, this practice is consistent with the disclosure, over several years, of a range of publications relating to GLP-2. *See e.g.*, page 11, of WO 97/39031 (published October 23, 1997); col. 5, lines 60-63, of U.S. Patent No. 5,789,379 (issued August 4, 1998); and Figure 1 and Example 2 of U.S. Patent 5,952,301 (issued September 14, 1999). Thus, the practice of those skilled in the art was to indicate amino acid substitutions in the GLP-2 sequence by reciting, for example, "Lys<sup>20</sup>GLP-2" where the amino acid substitution, followed by the position number in superscript, precedes the peptide indicator GLP-2. The disclosure of the Application conforms to this practice. *See e.g.*, page 6, lines 16-18, of the Application.

Likewise, the amino acid sequence of GLP-2 was well known in the art prior to the earliest priority date of the application. For instance, U.S. Patent No. 5,990,077 teaches that the significant homology among the amino acid sequences for GLP-2 of many mammalian species were well known by 1995. *See* col. 2, lines 59-65 ("[T]he term GLP-2 refers collectively herein to the various naturally produced forms of GLP-2, particularly the mammalian forms, *e.g.*, rat GLP2, ox GLP-2, porcine GLP-2, bovine GLP-2, guinea pig GLP-2, hamster GLP-2 and human GLP-2, the sequences of which have been reported by many authors including Buhl et al in *J. Biol. Chem.*, 1988, 263(18):8621"). U.S. Patent 5, 834,428 teaches that the amino acid sequence of GLP-2 was well known in the art. *See* col. 4, line 60 to col. 5, line 1 ("The various vertebrate forms of GLP-2 include, for example, rat GLP-2 and its homologues including ox GLP-2, porcine GLP-2, degu GLP-2, bovine GLP-2, guinea pig GLP-2, hamster GLP-2, human GLP-2, rainbow trout GLP-2, and chicken GLP-2, the sequences of which have been reported by many authors, including Buhl et al. in *J. Biol. Chem.*, 1988, 263(18):8621, Nishi and Steiner, *Mol. Endocrinol.*, 1990, 4:1192-8, and Irwin

and Wong, *Mol. Endocrinol.*, 1995, 9(3):267-77.”). U.S. Patent 5,789,379 also teaches that the amino acid sequences of GLP-2 were well known. *See* col. 4, lines 18-24. Similarly, the present Application teaches that each of these references describes GLP-2 as a 33 amino acid peptide having many therapeutic applications. *See* page 1, lines 20-25, of the Application. Additionally, the Application teaches that naturally occurring GLP-2 species are highly conserved peptides. *See* page 5, line 17, of the Application.

Accordingly, those skilled in the art would recognize the disclosure of the Application as particularly pointing out specific substitutions of a well known amino acid sequence. As such, Applicant respectfully request the withdrawal of this ground of rejection.

**V. Conclusion**

Applicant believes the application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to



Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By Michele M. Simkin

FOLEY & LARDNER LLP  
**Customer Number: 22428**  
Telephone: (202) 672-5538  
Facsimile: (202) 672-5399

Michele M. Simkin  
Attorney for Applicant  
Registration No. 34,717